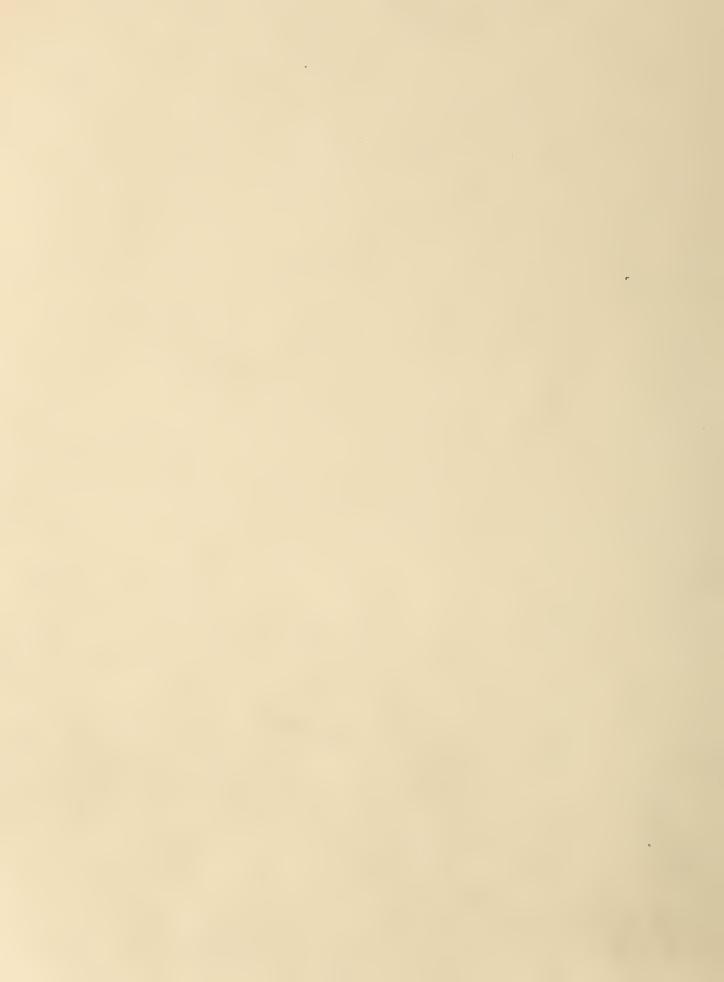
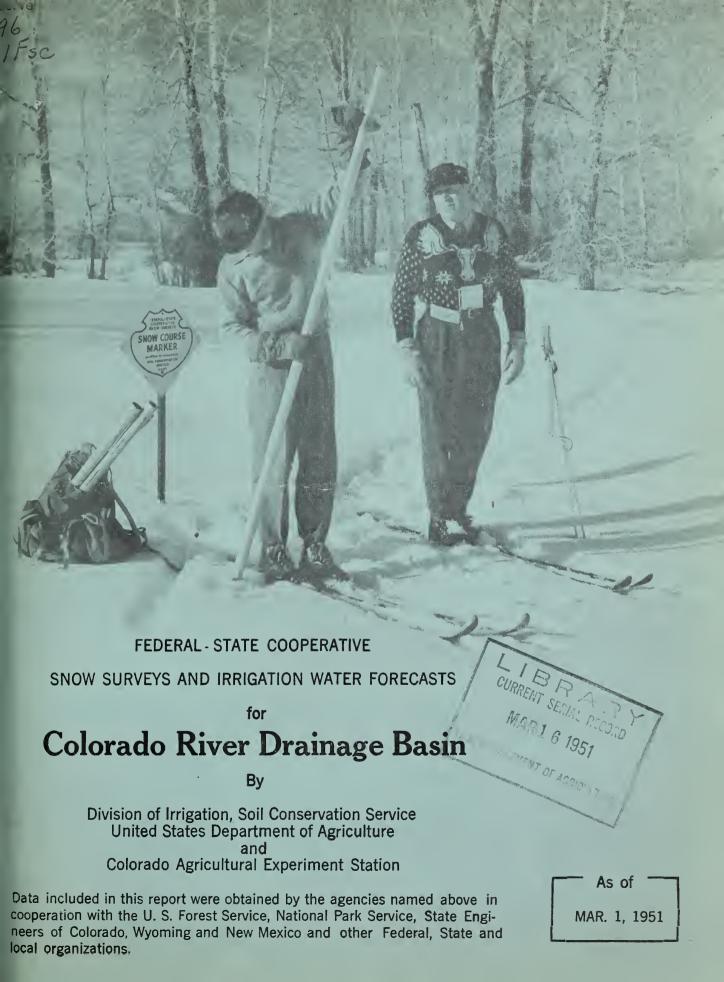
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### FEDERAL-STATE COOFERATIVE SNOW SURVEYS AND IRRIGATION WATER SUPPLY FORECASTS

FOR

COLORADO RIVER BASIN

Report Prepared

by

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and

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Miscellaneous Series Paper No. 485 Colorado Agricultural Experiment Station

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### WATER SUPPLY OUTLOOK COLORADO RIVER DRAINAGE March 1, 1951

Snow accumulation on the headwaters of the Colorado River in Wyoming and Colorado is generally above average for March 1 and considerably above this date in 1950. Snow cover is well above normal on the headwaters of the Green in Wyoming and on the source of the Colorado and Gunnison Rivers in Colorado. Elsewhere in Colorado snow cover is normal or slightly below normal. On new Mexico tributaries snow fall has been deficient. Soil moisture conditions are reported as fair to good in Wyoming and Colorado except for the extreme southwest section of Colorado.

The snow cover at high elevations in Arizona continues to be extremely deficient. Stream flow is below normal and reservoir storage is at minimum levels.

### COLORADO RIVER AND TRIBUTARIES IN COLORADO

Colorado River (Above Glenwood Springs): The snow cover on the Colorado and Roaring Forks Rivers above Glenwood Springs is well above normal for this date and substantially above last year. North of the Colorado River and on the Grand Mesa the current snow cover is normal to slightly below normal. The summer flow of the Blue River should be well above average since current snow cover is the highest since snow surveys were started and extends to medium elevations. Storage in Green Mountain Reservoir is now 76,000 acre-feet as compared to 147,000 on March 1, 1950. Soil moisture conditions are described as good in the upper valley and fair to good in the Grand Valley. Streamflow is reported as about average.

Gunnison River: The water supply outlook for the Gunnison is similar to the upper Colorado except that the snow cover on the southern tributaries is slightly less than normal. From Marshall Pass west along the Continental Divide including the headwaters of the Uncompangre, the snow fall has been less than normal but above 1950. Storage in Taylor Park reservoir is now about 50,000 acre-feet as compared to 71,000 a year ago. Stream flow is reported as about 90 percent of average. Presipitation has been deficient and soil moisture conditions are described as fair.

Yampa and White Rivers: The snow cover on these Green River tributaries in Colorado is about normal as of this date. On the North Fork of the White River there is a small area of heavy snow cover. Precipitation at valley elevations has been deficient. Soil moisture conditions are described as fair to good in the high valleys.

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San Juan and Animas Rivers: Snow cover along the Continental Divide and San Juan mountains in southwestern Colorado is 80 to 100 percent of normal. Summer streamflow from this snow cover will probably be less than indicated because of dry conditions during the fall and early winter months. On New Mexico tributaries snow fall has been decidedly deficient. There is no snow at lower elevations. Soil moisture conditions are described as fair to poor. Stream flow is less than normal. Storage in Vallecito Reservoir is much below average with 25,000 acre-feet in storage as compared to 51,600 a year ago.

Dolores River: Snow cover on the headwaters of the Dolores River is about normal with snow extending to lower elevations in the mountain areas. The soil is extremely dry in the Cortez irrigated district. Stream flow is reported to be about average. Storage in Groundhog Reservoir is 3100 acre-feet as compared to 7600 on March 1, 1950 and a past ten year average of about 10,000 acre-feet.

### GREEN RIVER IN WYOMING

From limited snow surveys on this watershed March 1, the snow cover is very high with 155 percent of normal this year as compared to 125 percent of normal on this date in 1949 and 1950. Valley precipitation has been about average, the soil is wet and stream flow is reported to be above average. Snow in valley areas is below average for this time of the season.

### COLORADO RIVER AND TRIBUTARIES IN ARIZONA

The water supply outlook for the Colorado River tributaries in Arizona remains unfavorable. There was light snow on practically all courses as of March 1 and some relatively heavy snow has been reported on the northern part of the Salt and Verde drainages since March 1. High winds and warm temperatures will cause much of this snow to evaporate and the dry soil under the snow will also reduce the runoff from snow melt. Stream flow as of March 1 was much below normal with the following flows in second-feet reported for the Salt River 190, for the Tonto 36, and for the Verde River 328. Soil moisture conditions are described as fair in the Salt River Valley. Storage in the Salt River reservoirs is a small percent of average and just over one-half of March 1, 1950. There is no water in San Carlos reservoir on the Gila River. Precipitation has been below normal.

Net storage in Lake Mead as of March 1 was 17,225,000 acre-feet, about 1,000,000 acre-feet less than a year ago.

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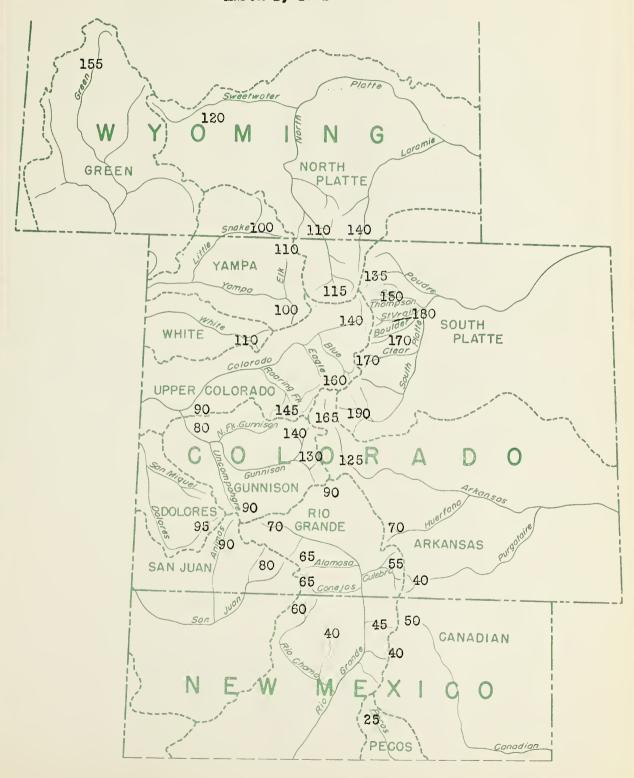
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WATER CONTENT OF SNOW ON THE WATERSHEDS OF PLATTE, ARKANSAS, UPPER COLORADO AND RIO GRANDE BASINS
BASED ON SNOW SURVEYS MADE APPROXIMATELY FIRST DAY OF MONTH

In Percent of Normal March 1, 1951



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John Committee Committee

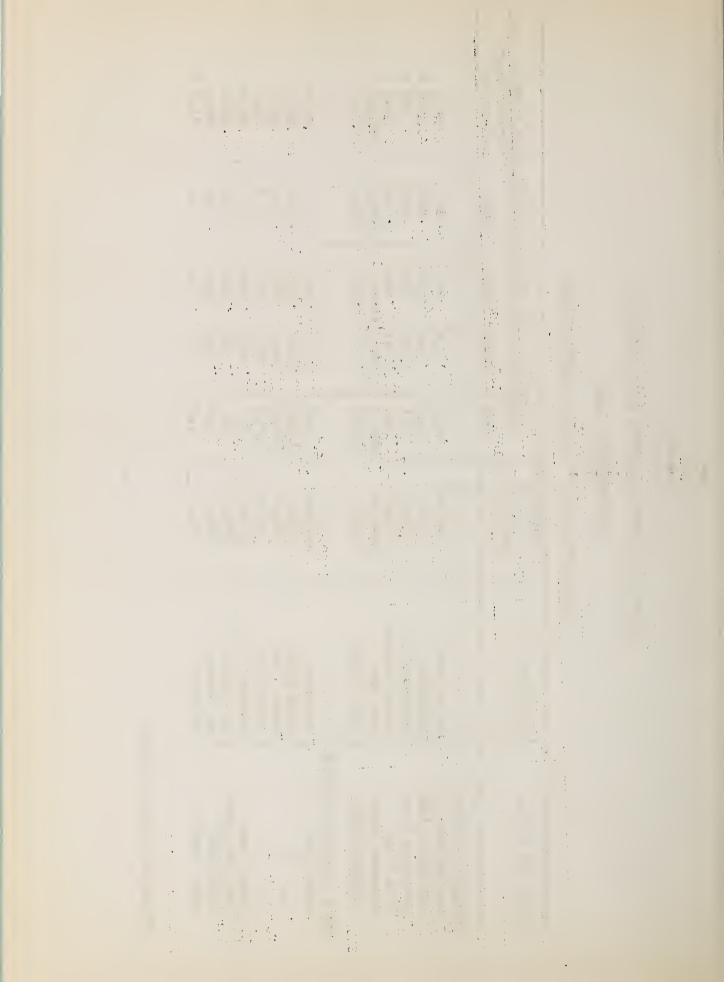
# SNOW SURVEYS AND IMPLGATION WATER FORECASTS

## COLORADO RIVER BASIN

## STATUS OF RESERVOIR STORAGE, MARCH 1, 1951

	STORAGE About March 1	10-year Avga* 1941-1950		68.5	43°2 *	9,3 *	62,1 *	19302.7	574.7			561.7	199.2	34.1	24.5	53.9	20.6	248.0	14.8 *	
		1948	(	89,1	62.9	11.0	74.5	19148,0	591.0			30.6	161.9	25.8	13.1	8,3	9.5	1.3	8,0	
	RE FEBT IN	1949	į	65.4	54.9	0.9	65.4	18197.0	574.0			223.5	112,1	27.3	27.3	83.4	24.4	162,0	36.0	
	THOUSANDS ACRE FEET	1950		71.4	51.6	7.6	109,1	18316.0	645,0			317,4	223.3	34.6	37.1	53.1	6.2	92.9	0 6	
	THO	1951		49,8	25.0	3,1	75.9	17255,0	62008			4.6	163.9	55,0	47.9	0°6	0.0	0,0	1.0	
TICABLE	CAPACITY	(Thous.A.Ft.		106.2	126.3	21.7	146.9	27935.0	688.0	-1-		1420.0	245.0	58.0	70.0	200.0	173.0	1200,0	0.79	******
	RESERVOIR	<u>{</u>		Taylor Park	Vallecito	Groundhog	Green Mountain	Laire Mead	Lake Havasu			Roosevelt	Horse Mesa	Mormon Flat	Stewart Mt.	Bartlett	Carl Pleasant	San Carlos	Horseshoe	
	BASTN AND STREAM		COLORADO DRAIMAGE	Tavlor River	Los Pinos River	Groundhog Creek	Blue River	Colorado River	Colorado River		SALT AND GILA DRAINAGE	Salt River	-	=	=	Veráe River	Acua Fria River	Gila River	Verde River*	

\*Some for shorter periods



# SNOW SURVEYS AND IRRIGATION WATER FORECASTS

## COLORADO RIVER BASIN

March 1, 1951 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF FREVIOUS YEARS BY WATERSHEDS SUMMARY OF MARCH 1

							Number				1951 Water	1951 Water Content in
WATERSHEDS	Snot	Snow Depth		Water Content	ontent		Courses	Snov	Snow Density	,	Fercent of	t of
	Fourteen			Fourteen			in	Fourteen			Fourteen	1950
	Year	1950	1951 Year	Year	1950	1921	Average	Year	1950	1921	Year	
	AVE.*			Avg.*				Avg.*			Avg.*	
COLORADO RIVER	In	In	In.	In.	In	In.		Fercent 1	Percent	Percent		
Colorado River**41.5	41.5	38.2	50.0	10.8	6	14.6	19	56	56	29	135	149
Roaring Fork	41.6	41.2	50.6	10.8	11.1	14.4	4	92	27	28	133	130
Plateau Creek	60.3	63.6	56.5	17.6	20.1	13.9	જ	59	32	25	46	69
Yampa River	55.8	53.4	59°6	16.6	17.5	18.6	വ	31	33	31	112	106
White River	42.3	37.3	49.6	13.3	11.7	14.8	c <sub>2</sub>	31	31	30	111	126
Gunnison River	46.8	46.7	48.2	12.9	13.8	12.7	10	28	30	56	86	85
Green River	39.1	45.5	52.8	11,2			23	59	30	33	156	128
Dolores River	35.0	31.8	35.9	8.9	0.8	8.1	4	25	62	23	91	88
er	42.9	43.6	36.4	12.3	12.6		7	53	29	58	77	75
Animas River	32.8	24.5	31.0	8.5	2°8	7.7	23	56	24	25	16	133
Lower Colorado	16.1	9.7	12,3	4.8	3.2	2.7	4	30	33	22	56	84
Gila River	6.3	0.5	3.1	1.7	0.3	0.8	ഹ	27	30	92	28	! 8
Salt River	7.4	9.0	4.6	2.1	0.2	Lot	2	28	30	24	52	\$ 1
Verde River	7.1	0.0	7.0	20.00	0.0	1,5	2	32	;	21	65	:
Little Colo. River	7.5	0.3	7.6	2.2	0.1	1.6	4	59	33	21	73	1
Williams Liver	4.1	0.0	6.9	1.5	0.0	1.6	~	37	;	23	106	8 1
**Above Glenwood Springs	Springs		*Some	for shorter	r periods	ods.						

### DATA PRECIPITATION

		Precipitation-	Departure	Precipitation*	Departure
MATERSHED	STATE	October 1 to	from		from
		February 28	Normal	February	Normal
		Inches	Inches	Inches	Inches
Colorado	Colorado	6.64	-0.30	1.23	-0.50
Green	Wyoming	3.18	-0.78	0.42	-0.33
San Juan	New Mexico	2,10	-2.26	0.43	-0-44
Colorado	Arizona	2,01	-3.76	0.38	0.65
Gila	Arizona	2,43	-4.57	0.56	-0.73
*Average of selected Wigh Flevetion Stations.	High Elevation	Stations		-	

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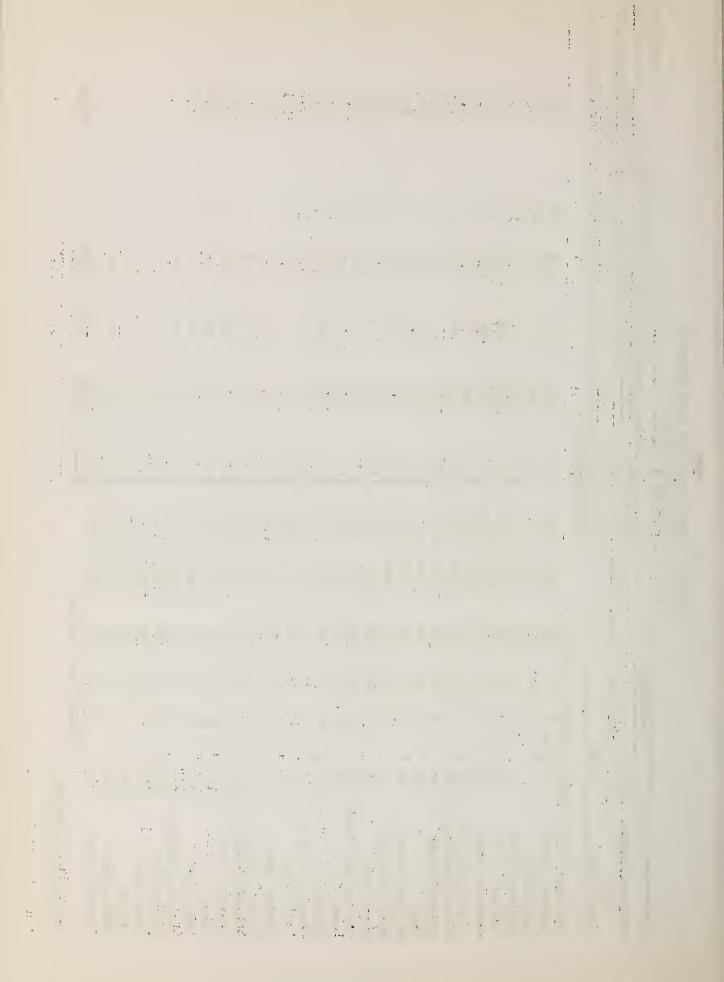
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COLCRADO RIVER DRAIMAGE SNOW SURVEYS

March 1, 1951

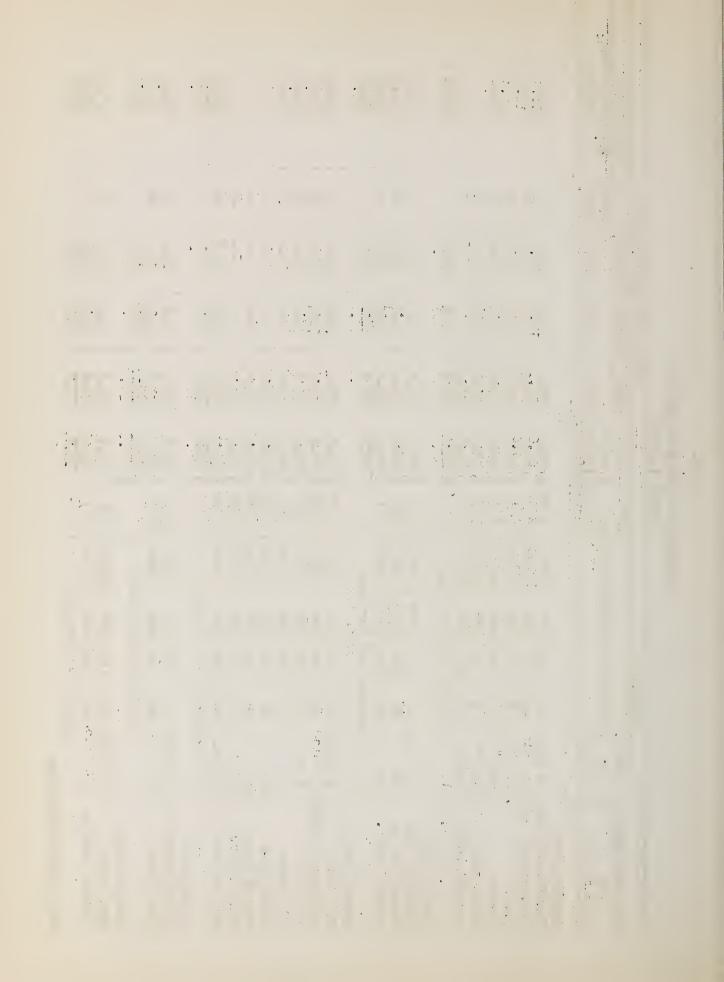
		1				Lich Cit	100T 6T 110		î	- [	Ca Cui Carrie	
		Location	100					. 1	- 1	cover rea	Measurements	ı
Drainage Basin	No.					Date	Snow	Water Co	Content (	Inches)		Past Record
	end	Sec.	Twpo	Range	Elev.	of	Depth				Yrs. of	Mv. Water Content
Snow Jourse	State					Survey	(Inches)	1921	1950	1949	Rec.	(Inches)
						COLO	COLORADO RIVER	~				
COLORADO RIVER (al	(above Gle	Glenwood	Springs	ngs)								
Cameron Fass*	1 Colos	0, 2	6II	7611	10300	2/27	0	16,4	15,0	တ		o
Park View*	11 2	24	5M	7.813	9200	3/1	30,1	6,3	-1°B	11,8		7.6
Phantom Valley	12 "	2	5N	7 SW	9200	2/27	42,7	12e7		10,3	72	8,3
Hoosier Pass*	14 "	13	88	7811	11400	2/28	53.1	14,1	7.1	9,3		ಜ್ಞಿಐ
Rerthoud Fass	16 "	35	23	751	8700	2/27	52.5	ľ	7 33	12.0	15	12.0
Tennessee Fass	13 "	21	88	ROM	10200	2/27		11,6	5,8	6.2	15	7.1
M. Fork Camp Gra	37 "	16	33	77W	0006	2/27	42,4	0	5,8	0,4	15	7.8
Fiddler Gulch	44 "	-	88	8011	11000	3/1	59.0	6	9.6	15,0	15	12.0
Lulu	1 6g	25	6N	76W	10200	2/25	58,5	17.5	11,9	16.2	13	13.3
Willow Creek P.	62 "		4M	781	9500	3/1	40.4	10,3	12,3	15.7	13	7.6
N. Inlet Grand L.	64 "	56	4N	75W	0006	2/24	24.9	9,4	5°7	7,9	13	7.3
	65 "	∞	SN	7511	10600	2/26	70.4	25.3	17.0	26.1	13	16,6
Thunderbolt Peak	" 99	22	211	74W	9500	2/28	60.7	4	14.9	17.8	13	•
Arrow	<b></b> 69	34	13	757	0066	2/27	39.7	10.2	5.2	8,2	13	0
Lapland	10 U	19	28	7611	9500	3/1	48.2	14,0	•	0	덤	တိ
Fremont Pass #2	79 11	2	88	7911	11400	2/26	64,0	Q2	11.6	12.8	L-I	o.
ις.	# T6	27	2M	83W	9100	3/2	39.3	0.6	8,6	13.0	15	o
Shrine Fass	# 96	15	68	797	10500	2/26	60.5	18.7	11.3	$^{\circ}$	6	G
Grizzly Peak	ı: 26	2	58	76W	11250	2/28	0°99	21.9	12,5	14.6	05	
Glen-Mer Ranch	102 "	31	28	77W	8820	2/27	40.2	₽. 1.8	4.0	0	4	 0
Monarch Lake	106 "	30	211	7411	8500	2/28	42.2	12,5	9,3	1-1	23	0
Granby	112 "	11	2N	777	8700	3/2	28.3	2,0	4.0	4	2	0,9
Grand Lake	127 "	36	4M	7500	8600	2/25	36.4	ထ ထ	5,2	10,0	2	7.6
Berthoud Summit	138 "	01.	3N	7.500	11300	3/2	62.3	4.	1	1		
Frazer View	129 "	34	28	7500	10600	3/5	51,3	13.1	1	1		
Gore Pass	143 "	8	TN TN	82W	8900	3/2	53,2		1	1	******	
Frisco	146 "	18	68	7811	9300	2/26	40.4	4	1	1		
Snake River	147 "	O)	53	76W	9700	_	$\infty$	0	1	1		
Summit Ranch	158 "	∞	4s	78W	10000	2/27	*	11.3	8 1 2	1	and I a	
	A	Average	for	Draina	වේ	programa,	50.0	4	8,6	13,1		10.8
* Cont. To Cont. Co.	0.0					9						

\*On adjacent drainage



COLORADO RIVER SHOW SURVEYS March 1, 1951

State   Stat			Location	noi			Date	S out	Show	Cover	Measurements	nts	Poct Decord
State   Sec.   Twp.   Range   Elev. of   Dayth   Sec.   Twp.   Range   Elev. of   COLORADO RIVER   Sec.   Sec.   Twp.   Range   Elev. of   COLORADO RIVER   Sec.   Sec.		0		1		,	La co		- 1	21120110	THOUGO		TO COL
State	•	and	•	Twp.	Range	Elev.	of					Yrs. of	AvWater Content
Strong   S	ourse	State					Survay	(Inches)	1951	1950	1949	Rec.	(Inches)
Color   SS Color   SO   115   STM   10700   2/27   54.6   17.1   13.6   13.4   14.5   15   15   15   15   15   15   15	מסק בו	_					COLORA	DO RIVER					
1   Cr. 34   20   115   877   9200   3/1   55.5   14.4   14.2   14.5   15   15   15   15   15   15   15	ss Tunnel			113	8211	10700	2/27	54.6	17.1	13.6	13.4	15	13.4
15   1   98   87W   8700   87,1   50.8   8.4   4.0   6.5   15   15   15   15   15   15   15			20	113	871	9200	3/1	52,3	14.4	14.2	14.3	15	10.8
100   12   88   87   10400   3/3   65.6   17.5   12.7   16.5   4     131   2		45 m	<u>г</u> -і	98	8311	8700	3/1	30.8	8.4	4.0	6.3	15	5.4
131   2   68   83W   11000   3/3   45.8   11.6   13.5     1	e	1001	12	86	8211	10400	3,3	63.6	17.5	12.7	16.5	4	13.7
145   145   24   118   8371   10700   2/27   54.7   17.2	Lake	131 "	23	88	8311	11000	3/1	45.8	11.6	13.5	1 1	-	
Rark 24 Wyo 17 35M 109W 8900 3/1 48.5 15.7 11.7 10.6 9 1 1.2 5	n Gulch	=	24		8311	10700	2/27	54.7	17.2				Cauding
Rather S4 Wyo. 17 S5M 10SM 8900 3/1 46.8 15.7 11.7 10.6 9  Ref. 26 "   14 S7M 11M 8500 3/1 65.5 12.0 19.2   17.6 9  Ref. 26 "   14 S7M 11M 8500 3/1 65.5 17.5 15.7   16.5 19.2   17.6 9  Ref. 26 "   14 S7M 11M 8500 3/1 65.5 17.5 15.7   15.5 15.5   17.6 9  Ref. 26 "   2 S M 10 M 82M 8500 3/2 55.3   17.7   16.5 19.9   12  Lodge 8 "   21 SM 82M 8700 3/2 55.3   15.1   19.8   15  91 "   27 SM 83W 8700 3/2 85.4   15.3   16.6   18.5   15.1    140 "   13 SM 83W 8500 2/26 72.5 25.4      *		I	verag		drains	<b>9</b> 2		9000	1404	11.	12.6		10.8
ark         24 Myo.         17         55N         106M         8900         3/1         48.5         15.7         11.7         10.6         9           S.         25 %         1 4         37M         110M         8500         3/1         46.8         10.1         12.5         9           R         26 %         1 4         37M         111M         8500         3/1         52.8         17.7         13.6         9           R         Average for drainage         2         2         22.0         19.2         17.6         9           Lodge 8 %         2         1         1         1         84W         8200         2/26         75.9         25.0         15.1         19.8         15           Lodge 8 %         2         1         <	RIVER	-											
S. 25 " 25 " 25 " 25 58N 1107 7900 3/1 46.8 14.8 10.1 12.5 9  R. Average for drainage  S. 26 " 14			17	35N		8900	3/1	48.5	15.7	11.7	10.6	<u>о</u>	₽•6
R	•		23	38N	11011	7900	3/1	46.8	14.8	10.1	12,5	6	10.0
R 6 Colo. 25 7N 84W 8200 2/27 55.3 17.7 16.5 19.9 12  Lodge 8 " 21 5N 87W 8200 2/26 73.9 25.3 15.1 19.9 12  Lodge 8 " 21 5N 87W 8500 2/26 73.9 25.3 15.1 19.9 12  140 " 13 5N 87W 9500 2/26 72.5 25.4  * 141 " 30 5N 87W 9500 2/26 74.5 25.4  * 142 " 30 5N 87W 9500 2/26 74.5 25.4  * 142 " 50 5N 87W 9800 2/26 74.5 25.4  * 3		26 " i	14	37M	1111	8500	3/1	63.5	22.0	19.2	17.6	<u></u>	14.3
R		7	verag		drains	96 60		52.8	17.5	13.7	13.6		11.2
Lodge 8 " 21 5N 84N 8200 2/26 77.9 16.5 19.9 12  Lodge 8 " 21 5N 82N 9500 2/26 77.9 25.3 15.1 19.8 15  9 " 6 10N 85N 870 9500 2/26 77.9 25.3 15.1 19.8 15  140 " 121 87N 95N 9100 3/2 55.4 15.3 16.6 18.3 12  8 141 " 27 2N 87N 9100 3/2 56.9 59.9 8.6 15.0 15.0  * 9 10	RIVER	-	,										
Lodge 8 " 21 5N 87N 9500 2/26 73.9 25.3 15.1 19.8 15  9 " 6 10N 85N 8700 3/2 52.4 15.3 16.6 18.3 12  9 " 8	Tre		26	7.14	84吋	8200		55.3	17.7	16.5	19.9	12	15.5
9 " 6 10M 85W 870 3/2 52.4 15.3 16.6 18.3 12 140 " 13 5M 83W 9100 3/2 95.9 55.8  140 " 13 5M 83W 9100 3/2 72.6 14.4  * 141 " 30 5M 83W 9550 2/26 44.5 14.4  * 9 Tyo. 29 14M 85W 9800 2/26 44.5 14.4  * Average for drainage  56 Colo, 35 11S 96W 10000 3/3 44.4 10.4 12.2 14.6 11  57 Colo, 35 11S 96W 10000 3/1 68.5 17.4 28.0 14.6 11  58 Tyo. 36 11S 96W 10000 3/1 68.5 17.4 28.0 14.6 11  58 Tyo. 36 11S 96W 10000 3/1 68.5 17.4 19.6 11  59 Tyo. 36 11S 96W 10000 3/1 68.5 17.4 19.6 11  58 Tyo. 36 11S 96W 10000 3/1 68.5 17.4 19.6 11		<del>ႊ</del>	21	SN	821	9300		73.9	25.3	15.1	19,8	15	17.7
140   13   5N   83W   9100   3/2   95.8   9.0   8.6   13.0   15     141   30   5N   85W   9550   2/26   72.5   25.4           142   12   5N   84W   8500   2/26   44.5   14.4           142   12   5N   84W   8500   2/26   74.5   25.7   20.5   21.4     142   21   5N   84W   8500   2/26   74.5   25.7   20.5   21.4     3	ver	<b>=</b>	9	IOM	8511	8700		52,4	15.3	16.6	18.3	12	13.6
s         140 "         15         5N         85W         9700         2/26         72.5         25.4 </td <td>888*</td> <td># T6</td> <td>27</td> <td>2N</td> <td>83W</td> <td>9100</td> <td></td> <td>39.3</td> <td>0.6</td> <td>8.6</td> <td>13.0</td> <td>5</td> <td>10.6</td>	888*	# T6	27	2N	83W	9100		39.3	0.6	8.6	13.0	5	10.6
s         141 "         30         5N         85W         9550         2/26         44.5         14.4 </td <td></td> <td>140 "</td> <td>13</td> <td>SIN</td> <td>8311</td> <td>9700</td> <td></td> <td>6°96</td> <td>35.8</td> <td>1</td> <td>i</td> <td>i</td> <td></td>		140 "	13	SIN	8311	9700		6°96	35.8	1	i	i	
* 9 Tyo. 29 14N 85W 8500 2/26 44.5 18.6 17.5 25.1 14  Rain 55 Colo, 15 28 1N 88W 8500 3/1 49.6 16.1 10.2 17.1 12  EEK 56 Colo, 35 11S 96W 10000 3/3 44.4 10.4 12.2 14.6 11  ** 9 Tyo. 29 14N 85W 8500 3/1 49.6 16.1 10.2 17.1 12  ** 49.6 16.1 10.2 17.1 12  ** 49.6 16.1 10.2 17.1 12  ** 49.6 16.1 10.2 17.1 12  ** 49.6 16.1 10.2 17.1 12  ** 49.6 16.1 10.2 17.1 12  ** 49.6 16.1 10.2 17.1 12  ** Average for drainage 5/3 44.4 10.4 12.2 14.6 11  ** Average for drainage 5/6 5.5 15.9 15.9 17.4 19.6 11  ** 49.6 16.1 10.2 17.4 10.2 14.6 11  ** Average for drainage 5/3 15.9 15.9 15.9 15.0 11	******	141 "	30	2M	85W	9550		72.5	25.4	i	i	:	
* 9 Tyo. 29 14M 85W 9800 2/26 74.5 25.7 30.5 25.1 14  Average for drainage  EEM  55 Colo 25 18.5 118.5 15  Average for drainage  56 Colo 25 118 96W 10000 3/3 44.4 10.4 12.2 14.6 118  Average for drainage  56 Tyo. 15 25 118 96W 10000 3/3 44.4 10.4 12.2 14.6 118  Average for drainage  56 Tyo. 15 25 118 96W 10000 3/3 44.4 10.4 12.2 14.6 118  Average for drainage  56 Tyo. 15 25 118 96W 10000 3/3 44.4 10.4 12.2 14.6 118  57 Tyo. 15 28.0 24.6 118		142 "	21	5N	84W	8500		44.5	14.4	i	1 1	ŧ	
Average for drainage 59.6 18.6 17.5 21.4 tain 35 colo 15 28 1W 8500 3/4 49.7 13.5 15.2 18.5 15 15 15 15 15 15 15 15 15 15 15 15 15	ttle*	9 Wyo.	53		8511	9800		74.5	25.7	30,5	26.1	14	25.4
tain 55 Colo 15 28 91W 8500 3/4 49.7 13.5 15.2 18.5 15 15 15 15 15 15 15 15 15 15 15 15 15		AT	rerage	for	drainag	Ð.		59.6	18.6	17.5	21.4		16.6
tain 55 Colo, 15 28 91W 9000 3/4 49.7 13.5 13.2 18.5 15  36 " 28 1M 85W 8500 3/1 49.6 16.1 10.2 17.1 12  EEK  56 Colo, 35 11S 94W 10000 3/3 44.4 10.4 12.2 14.6 11  vide 85 " 25 11S 94W 10000 3/1 68.5 17.4 28.0 24.6 11  Average for drainage 56.5 15.9 20.1 19.6	RIVER			gen.									
36 " 28	Mountain		15	28	M16	0006	3/4	49.7	13.5	13.2	18,5	15	14.4
EEK 56 Colo, 35 11S 96W 10000 3/3 44.4 10.4 12.2 14.6 11	anco		28		8811	8500	3/1	49.6	16,1	10.2	17.1	12	12.2
EEK 56 Colo, 35 11S 96W 10000 3/3 44.4 10.4 12.2 14.6 14 14 15 15 11S 94W 10000 3/1 68.5 17.4 28.0 24.6 11 19.6 11	-	AA	rerage	for	drainag	υ <sub></sub>		49.6	14.8	11.7	17.8	•	13.3
56 Colo, 35 11S 96W 10000 3/3 44.4 10.4 12.2 14.6 14 14 15 15 15.9 14.6 14 15.9 14.6 14 15.9 14.6 14 15.9 14.6 14 15.9 14.6 14 15.9 14.6 14 14 15.9 14.6 14 15.9 14.6 14 15.9 14.6 14 15.9 14 15.9 14.6 14 14 15.9 14.6 14 14 15.9 14.6 14 14 14 14 14 14 14 14 14 14 14 14 14	U CREEK												
Divide 85 "   23   11S   94W   10000   3/1   68.5   17.4   28.0   24.6   11   Average for drainage   56.5   15.9   20.1   19.6	altes	co		11s		10000	3/3	44.4	10.4	12.2	14.6	14	13.2
Average for drainage 56.5 15.9 20.1 19.6		ະ	23	118	<b>&gt;</b>	10000	3/1	68.5	17.4	28.0	24.6	11	21.9
			erage	for	irainag	ø.		56.5	15.9	20.1	19.6		17.6



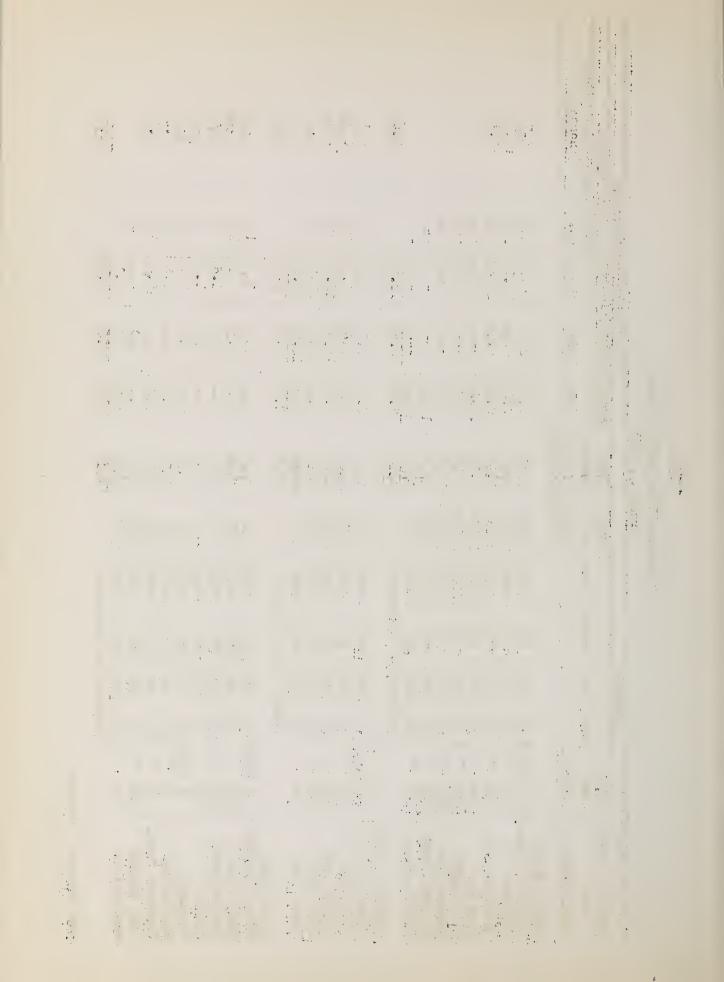
COLORADO RIVER SNGW SURVEYS
March 1, 1951

ıts	Past Record	Yrs. of Av. Water Content	(Inches)		טור	0.41	න <sub>•</sub> ග	8,2	7.7	17.8	0.8	10.7	21.9	20,5	12.5						12.9		23.7	25.9	4.7	2	7.5			50 -	2.5	12.3
Weasurements	Pa (	Yrs. of	Rec.		r.	-1	12	15	14	14	14	14	디	H	10	63	<b>~</b> 1	2	r1	i			74	13	12	12	70	<b>~</b>	1	11	10	
1	(Inches		1949		α -	0011	13.5	10,8	11,4	19,4	8.8	13,3	24.6	22.4	14.8	7.4	1	8,9	1		15.1		55.4	40.1	6,1	17.7	10.6	1	-	8,2	13.3	18.8
Snow Course	Content		1950		ر بر	7°41	7.5	7.4	9°6	18,8	10.0	5.2	28.0	26,5	10,3	6*9	6,5	2,6	17,0	9	13,8		31,0	32,2	2.3	ი ი	3,6	13,6	2	1.4	7.5	12,6
	Water		1951		ט	O °OT	9,3	11.9	10,5	13.4	7,8	9,3	17.4	16,1	15.7	က္ခ		4.4	14.1	7.4	12.7		18,5	20.2	6,3	7.5	3.9		15.20	0,0	7.5	9.5
	Snow	Depth	Ĭ.	DO RIVER	75 /	# C #	47,4	37.7	43,3	59.3	25.6	37,9	68,5	63.1	53.7	27.2		21.5	50.0	35.3	48,2	***************************************	71.5	76.5	21,12	34.0	15,8	- <del> </del>	64,2	6:1	29,8	36.4
	Date	of	Survey	COLOPADO	, , ,	2/2	3/5	3/5	3/2	3/1	3/1	2,78		3/1				2/28	3/2	2/28		,	2/28	2/28	2/28	2/28	2/28	,	2/28	3/1	3/1	•
		Elev.			000	0000	10800	10500	0026	10000	7500	0086	10000	9500	10800	10500	10900	10000	9500	9100	8.ge		10000	10000	9400	8850	7950	9700	11000	7750	8500	nage
		Range			1110	ROM	뜅	旦	8211	2571	89	E	M56	1940	EE	411	311	3压	8511	49M	Drainage		呂	딤	M	NG.	OTT	1111	EE .	106.7W	106.7 W	drai
Location		Twp.	ł		7 7	SCT	48N	48N	148	128	138	43N	113	118	49M	43N	42N	45N	Lis	55	ge for		37N	27M	41N	39M	37M	36N	37M	36.9N 106.7W	36.9N   106.7W	ge for
1,00		Seco				22.	24	19	19	2	14	29	23	34	61	13	~	27	ri	<del></del> 1	Average		4	10	10	12	24	4	9	- L		Average
	No.	and	State			TR COTO	42 "	43 "	46 "	55	55 "	58 "	85 "	n 78	# 38	104 "	123 "	126 "	152 "	159 "		W.Pas+1	26 Colo.	29 "	30 "	31 "	93 "	135 "	155 "	17 N. Pex.	18	,
	Drainage Basin		Snow Course		GUNNISON RIVER	Crested Butte	Marshall Fass	Poncha Creek*	Fark Cone	Alexander Lake	Snowshoe Mesa	Ironton Park	Trickle Divide	Park Reservoir	Porphyry Creek	Lake City	Spring Cr. Pass	Cochecopa Fass	McClure Pass	Long Gulch	)	SAN JUAN RIVER	Wolf Creek Pass*	Upper San Juan	Silverton Sub. S.	Cascade	Granite Peaks	La Plata	Wolf Creek Summit	Chama Divide*	Chamita*	

COLORADO RIVER SHOW SURVEYS
March 1, 1951

		1	100				March 13	TO TOOT					
		1	ಎಂಡು	10.11					- 1	SHOW COURSE HEASUI'EMENUS	SE LOS	suremen	മാ
Drainage Basin	No.		agenty				Date	Snow	Water C	Content	Inches,		Fast Record
and	and	Sec	E O	Two.	Range	Elev.	of	Depth		THE RESERVE OF THE PARTY OF THE		Yrs. of	Av. Nater Content
Snow Course	Stete	0					Survey	(Inches)	1321	1950	1949	Rec.	(Inches)
						-	COLORA	COLORADO RIVER					
ANIMAS RIVER		- 1			į	0	00/0	,		t	(	(	
Silverton Sub. S.		ő		41N		0076	2/28	21,1	6,3	2,3	6,1	12	4.07
Cascade	31	12		39N	N6	8850	2/28	34.0	7,5	<b>ග</b> ග	17.7	12	10,3
Ironton Park	58	53		43N	N.	8700	2/28	37.9	9,3	5.2	13,3	14	10,7
Spud Mt.	149	32		40N	Shir.	10700	2/28	64.3	16,1	1	1	1	
Molas Lake	150			40N		10500	2/28	42,7	8,8	!	8 1	1	
Howardville	151	15		41M		9800	87/28	37,7	9°9	1	1	1	
Mineral Creek	152	50 50 50		42N	8.1	10300	2/28	51,8	12,5	1	1	1	
Red Mt. Fass	153	113		42N	NS N	11000	2/28	81.2	23,9	1	1	1	
		Av	Average	e for	r Drainate	nate		31.0	7.7	28	12.4		8,5
COLORES RIVER													
Rico		Colo. 11		39M	11W	8700	2/28	27.3	5.7	7,8	10.8	11	6.1
Telluride	24	9 =		42N	89	8600	3/1	50.3	7,5	4,8	2°60	12	8,9
Lizard Head	25	1 24		41N	101	10300	2/28	45.4	11.8	13,6	23.5	11	12.9
Lone Cone	06	23		41N	13W	0068	3/2	40.6	7.3	10,6	12,4	90	9.00
Trout Lake	114	හ =		41N	MS	0026	2,27	42.6	0.6	12,0	14.7	લ્ય	!
		Av	Average		for drainage	กลซูอ		35.9	8-1	8.5	14.0		8 6 8
GILA RIVER			u i shan										
Frisco Divide	11 11	N. Mex .21		68	SOW	8000	3/1	4°5	0, 1	0.4	5.4	13	2.2
State Line	14	5		.6s	21W	8000	3/1	8.8	0.7	0.3	7.1	13	2.6
Taylor Creek	22	20			HOT	7850	1	1 1	!	0.0	1.8	ග	0.5
Inman	23	9		118	TOM	7800	1 .	1	1	0°0	1.6	വ	0.7
Nutrioso	1 Ari	1z 23		en is	30E	8500	3/1	8,1	9,0	2,0	7.07	13	ಬ್ಳ
Beaver Head	2	13		4M 3	30E	8000	3/1	3.7	1.0	ì	0 2	12	ദംവ
Coronado Trail	رن =	26			30E	8000	3/1	2,7	8.0	9,0	10.4	52	3.6
Rose Canyon	58	15		128	16E	7300	2/28	0,0	0.0	0.0	0.0	23	
Bear Wallow	30 #	9			13E	8100	2/28	5,8	1,1	0	.7.1	ಬ	
		Av	Average	e for	drainage	na.ge	******		8°0	0.3	8.0		1.7

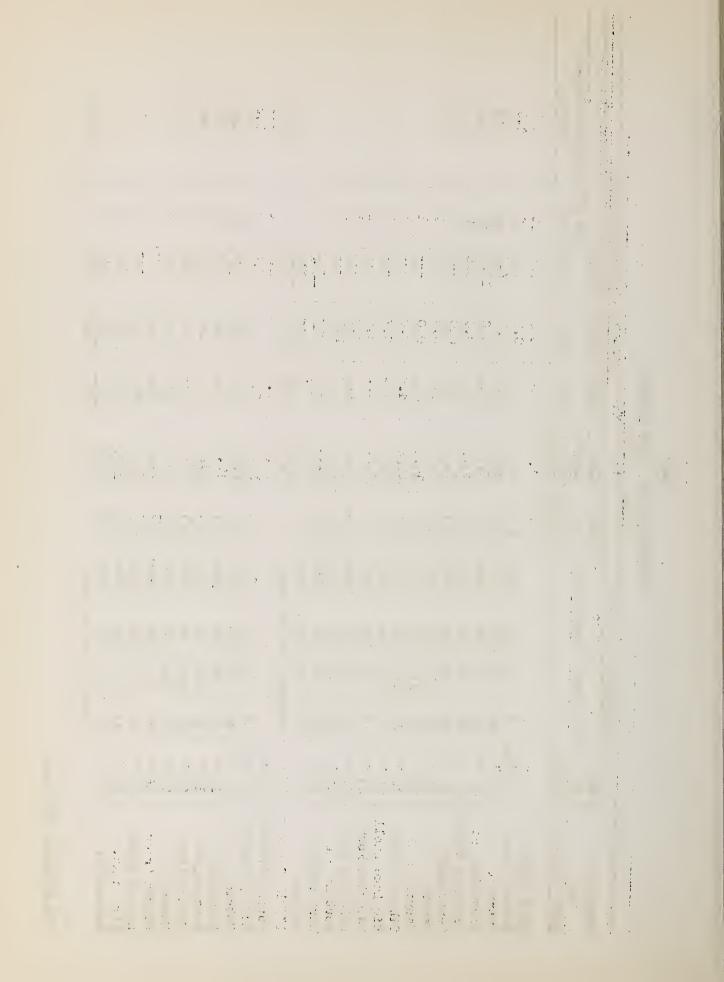
\*On Adjacent drainage



COLORADO RIVER SNOW SURVEYS March 1, 1951

		Location	tion					S <sub>2</sub>	now Cou	Snow Course Measurements	suremen	t s
Drainage	No			_		Date	Snow	Water 3	Jontent	(Inches		
and	and	Sec	Twp.	Range	Eleve	of	Depth				Yr.s. of	Av.Water Content
Snow Course	State					Survey	Survey (Inches)	1981	1950	1949	Rece	(Inches)
				-		COLOR	COLCRADO RIVER					
SALT RIVER												
Forest Dale	5 Ariz.	Ø	N6	21E	6000	3/1	ات دا	0,0	000	2,3	12	1.1
McNary	=	14	8N	23E	7200	3/1	10.3	207	0.0	5,8	12	2,5
Nutrioso	=	23	6N	30日	8500	3/1	3.6	9.0	0,2	7.7	13	22
Coronado Trail	3 =	26	5N	30E	8000	3/1	2.7	0,8	0.6	10.4	13	3.6
Milk Ranch	<b>=</b> 9	28	8N	23E	2000	3/1	6,5	7.3	0.0	2,5	6	Г, Г
Gentry	28 #	36	11N	1部	2600	3/1	9.6	2,1	0°0	i	~	
Heber	27 m	28	11N	18	7600	3/1	11.7	2,6	0.0	000	<b>~</b>	
Canyon Creek	<b>56</b>	18	11N	1部	7500	3/1	14,0	3.2	0.0	1	~	
Elk	25 =	31	11M	145	2600	3/1	19,5	4.8	0.0		<b>~</b>	
Big Lake Knoll	24 "	83	SN	28E	8800	.	1	1	6.7	-	Н	
Maverick Fork	23 "	13	6N	27五	9050	8 8	1	1	6,9	1	~	
Baldy	22 "	28	7N	27E	9000	3/2	26.4	5,0	ى ئ ئ	-	~	
Fort Apache	23 "	18	71	27E	9000	3/5	33.6	5,3	2,3	1	<b>~</b>	
Vorleman	31 "	33	eN	146	5860	-	;   	1	1	1	i i	
		Aver	Average for	Ъ	rainage		4.6	1,1	0.2	5.7		1.2
LITTLE COLORADO RIVER	RIVER	,	****				) )					
Forest Dale*	5 Ariz	2	N6	21压	0009	3/1	E CH	0.0	0,0	2,3	12	1.1
McNary	4	14	8N	23E	7200	3/1	10,3	2.7	0.0	5.8	12	2.0
Nutrioso*	= [	23	en 6	30E	8500	3/1	1,8	9.0	0,2	7.7	13	2.2
Mormon Lake	13 "	13	18N	덩	7350	3/1	17.3	<b>5°</b> 3	-	21.2	23	!!!
Fort Valley	12 "	22	22N	田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田田	7350	3/1	6,9	1,8	0.0	6°6	41	2.7
Gentry	28 "	36	TIM	15日	2,600	3/1	9.6	2,1	0.0	-	<b>~</b>	
Heber	27 "	28	11N	15日	7600	3/1	11.07	5,6	0.0	1	Н	
Canyon Creek	26 m	18	11N	15距	7500	3/1	14.0	3°5	0°0	1	~	
Elk	25 =	31	TIM	14压	7600	3/1	19,5	4.8	0,0	1	М	
Mormon Mt.	= 67	14	18N	8	7500	2/28	19,5	3,7	5.0	1	<b>~</b>	
	_	Average	age for	r drainage	nage		7.6	1.6	0.1	6.4		2.2

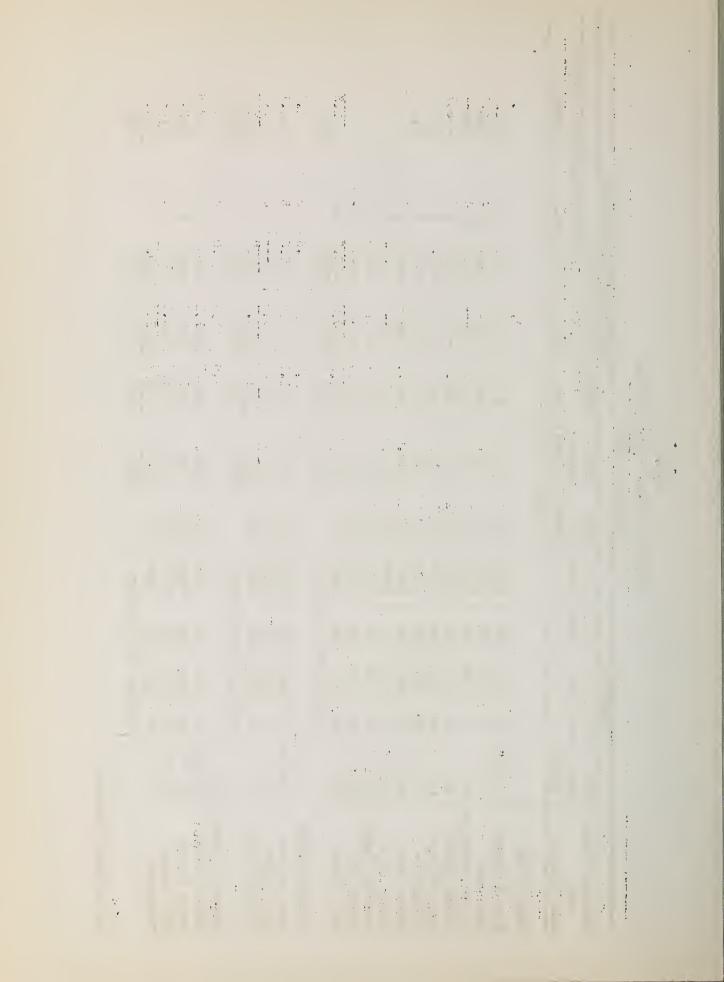
\*On adjacent drainage

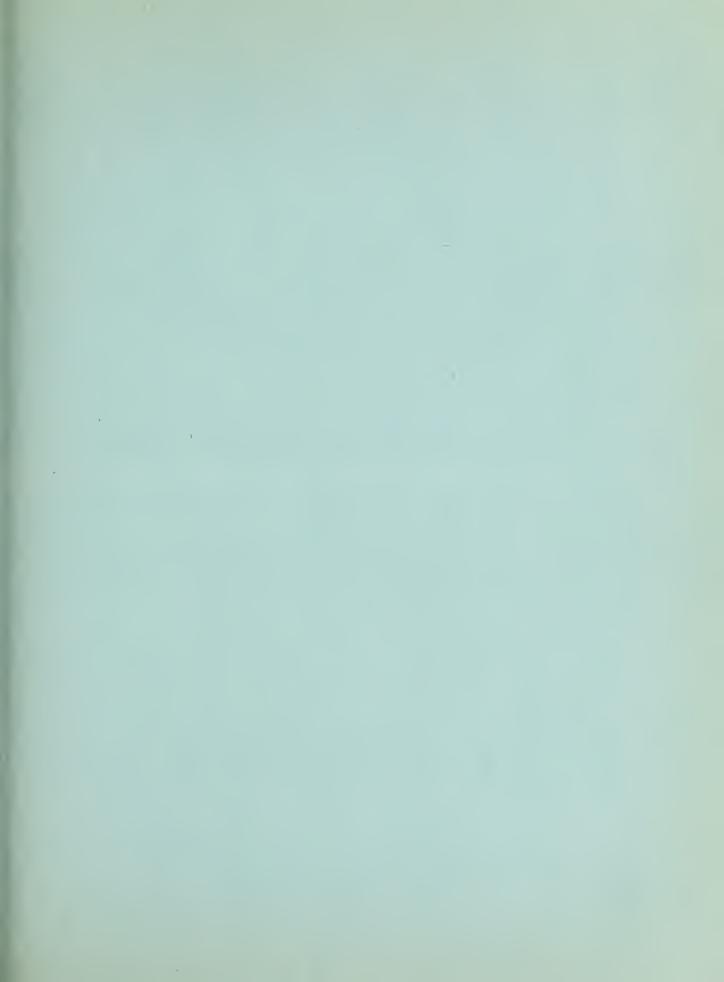


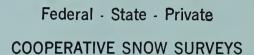
COLORADO RIVER SNOW SURVEYS March 1, 1951

۲ٔs		Av. Water Content	(Inches)			1,8	1.1			2.7	3.6						2.3		1,8	1.1	0.0	1,2		<b>ග</b> ීග	ಐ	2.7	ಬ್ಯಂ	4°8
suremen	(	Yrs of	Rece			വ	വ	4	4	4	4	<del></del> 1	~	<del></del> 1	러	!			വ	ည	C3			4	4	4	4	
rse Mea	(Inches		1949			7.8	5.5	7.8	2102	6°6	11,0	1	1	1	1	8	10.5	4 t - gr	7.8	5,5		6.7	<del></del>	14.0	2°8	್ 6	11,0	10.8
Snow Course Heasurements	Content		1950			0°0	0,0	000	1	0,0	0,0	000	1	!	2,0	1 1	೧೦೦		0.0	0.0	0°0	0.0		11.6	1.1	0,0	0.0	2,2
O.	Water (		1951			2,0	1.1	1,3	2.9	1.8	1,5	2,2	2,0	0.0	3,7	1,4	1,55		2,0	1,1	0,3	1,0		6°9	0°2	1,8	7,2	2.7
	Snow	Depth	Survey (Inches)	COLORADO RIVER		8,0	5.7	3.6	17,3	6,9	11.0	10.6	13.6	16.8	19.5	9.5	7.0		8,0	5.7	3,0	6.9		28.0	ເວ	6°9	11.0	12.5
	Date	of	Survey	COLORA		3/2	3/1	3/1	3/1	5/1	۲ <u>/</u> ۲	2/28	2/28	2/28	2/23	3/1			3,2	3/1	2/28		,	3/1	3/1	2/1	3/1	
		Elev.				6200	5700	7100	7350	7350	7100	6500	6930	7300	7500	7630	drainage	****	6200	2700	2000	drainage		8400	7500	7350	7100	drainage
		Range				34	68	2E	SS	田	い	压	88	8	贸	<u>공</u>			311	<u>119</u>	1111	for drai	-944	自	出	Ю	3E	for drai
Location		Twpo				14N	16N	15N	18N	22N	22N	181	18N	19M	181	17N	Average for		141	16N	SIN	Average f		33M	30N	22M	22N	Average f
Loc		Sec				22	23	63	13	22	2.2	<u>~</u>	6	53	14	30	Ave		22	203	91	Ave		. 34	21	22	27	Ave
	No	ard	State		<del></del> 1	7 Ariza	<b>=</b> 8	# <del>1</del>	13 "	12 "	= 0)	18 "	17 "	16 "	18 #	32 "			7 Ariz.	<b>≃</b> ⊗	15 "	ng.	IVIR	11 Ariz	10	122 "	= 0	à de manon
	Drainage Basin	and	Snow Course		VERDE RIVER	Iron Springs*	Camp Wood	Mingus Mountain	Mormon Lake*	Fort Valley*	Chalender*	Munds Fark	Casner Park	Antelope Park	Mormon Mt.	Happy Jack		WILLIAMS RIVER	Iron Springs	Camp Wood*	Willow Ranch		LOWER COLORADO RIVIR	Bright Angel	Grand Canyon	Fort Valley	Chalender	

\*On adjacent drainage







Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"